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October 23, 1986
RP:0065

District Engineer (PODCO-O 1954-SD)
U.S. Army Corps of Engineers
Building 230
Fort Shafter, Hawaii 96858

Dear Sir:

Application for Department of Army Permit
Hilo Municipal Sewage Outfall Extension
Hilo, Hawaii

The public notice of the application by the Department of Public Works, County of Hawaii, for a Corps permit to extend the Hilo municipal sewage outfall has been reviewed with the assistance of Frans Gerritsen and Hans Jurgen-Krock, Ocean Engineering; Keith Chave, Oceanography; and Walington Yee, Environmental Center.

We recently reviewed (October 7, 1986) the Draft Supplemental Environmental Impact Statement for this project. During that review a number of questions were raised regarding the effectiveness of the proposed sewage outfall extension to improve the water quality of Hilo Bay. We are enclosing a copy of this most recent review for your consideration as the concerns expressed at the DSEIS review stage are also pertinent to this permit application. We also called attention to the yet unanswered concerns identified in our earlier November 7, 1984 review of the 1984 Corps of Engineers permit application and in particular the need to consider tsunami as well as storm wave forces with respect to structural requirements.

Some additional specific questions and concerns have come to our attention with reference to the latest application for a Corps of Engineers permit.

There is no information provided in the permit notice, nor in the recently circulated draft supplemental EIS, that the alignment of the proposed extension will provide better water quality than the existing condition or than the condition provided by Alternative C. If we assume that an extension will improve the Water Quality in Hilo Bay, then Alternative C appears to be shorter, have only a single 45 degree bend, and would end in the same general area as the proposed extension. The 90 degree bend in the proposed alignment is likely to generate significantly greater pressure (structural) demands at that section, plus offer greater potential for clogging than the 45 degree bend diffuser pipe shown in Alternative C. The permit application indicates that Alternative C was eliminated on the basis of greater excavation needs however the diagram of the alignment does not support that decision. The added costs associated with the multiple direction changes, the extra structural requirements of the 90 degree bend, and the greater probability of clogging and consequent potentially higher maintenance costs would appear to offset added excavation costs.

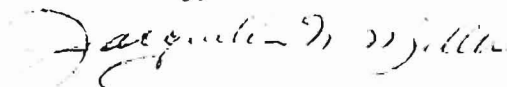
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An even more serious situation arises however, when we examine the cross sectional design of the outfall. We note that the type of covering of the pipe, ie. either rocks or tremie concrete, is to be left to the discretion of the contractor. It is our understanding that serious structural failures have occurred on the existing outfall pipe and more are imminent due to continuous wave and current scour of bedding rocks and gravels from under the pipe. Approximately 2 feet of tremie concrete, keyed into and well anchored to the bed rock or hard coral substrate should be the required covering for this pipeline extension to prevent erosion and subsequent failure of the pipe. Certainly structural integrity under tsunami or storm (hurricane) conditions is of critical importance also.

We note that blasting is likely to be necessary. The U.S. Fish and Wildlife Service should be consulted to determine when blasting may be safely undertaken and what other protective measures may be necessary to avoid impacts to endangered or threaten marine mammals and turtles.

We appreciate the opportunity to review this public notice and hope you will find our comments useful in your permitting process.

Yours truly,



Jacquelin Miller
Acting Associate Director

cc: OEQC
Patrick Takahashi
Frans Gerritsen
Hans Krock
Keith Chave
John Naughton
Walington Yee

bcc: Marc Stearns